



## Drilling Services

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## EOW Summary

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WELL: CLARENCE FARMER OHI 3H

OHIO COUNTY, WV

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Prepared by: ADAM BORDELON

Submitted: AUGUST 18, 2013

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Weatherford Drilling Services  
12100 GARDENWAY, WV



CHESAPEAKE  
CLARENCE FARMER #1  
OHIO COUNTY, WV



SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	9721.00	92.19	334.19	6299.68	3439.96	-1381.36	0.00	0.00	3764.29	
2	9778.00	92.19	334.19	6297.51	3491.24	-1406.16	0.00	0.00	3761.22	
3	10180.11	90.90	338.00	6286.66	3858.65	-1509.01	1.00	108.65	4163.10	
4	10230.11	90.90	338.00	6285.88	3905.00	-1587.74	0.00	0.00	4213.06	
5	10323.95	90.90	336.12	6284.40	3991.40	-1624.30	2.00	-89.94	4306.87	
6	12858.00	90.90	336.12	6244.53	6308.30	-2649.90	0.00	0.00	6840.60	3H1PBHL17

WELL DETAILS

Name	+N/-S	+E/-W	Northing	Eastng	Latitude	Longitude	Sht
#1	17.50	9.70	601719.40	1699247.70	40°08'49.472N	080°34'32.947W	N/A

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Eastng	Shape
3H1PBHL17	6244.53	6308.30	-2649.90	608027.70	1696597.80	Point

FIELD DETAILS

OHIO COUNTY, WV (NAD 27)

Geodetic System: US State Plane Coordinate System 1927  
 Ellipsoid: NAD27 (Clarke 1866)  
 Zone: West Virginia, Northern Zone  
 Magnetic Model: IGRF2010  
 System Datum: Mean Sea Level  
 Local North: Grid North

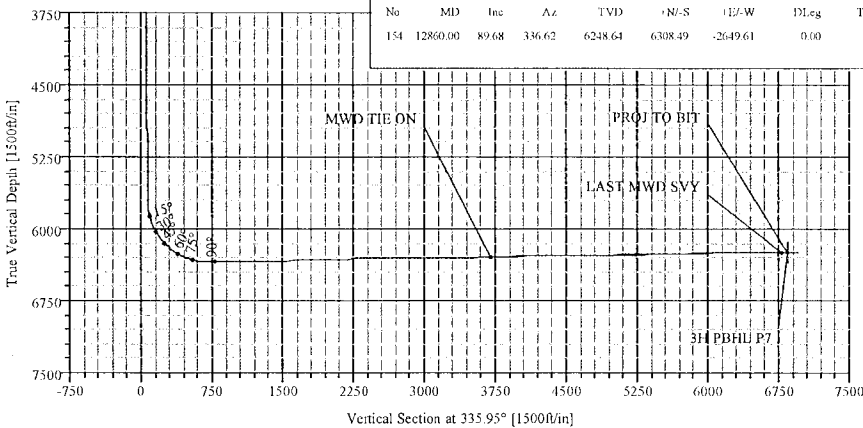
SITE DETAILS

CLARENCE FARMER

Site Centre Northing: 601701.90  
 Eastng: 1699238.00  
 Ground Level: 1330.00  
 Positional Uncertainty: 0.00  
 Convergence: -0.69

TARGET LINE: 6308' TVD @ 9° VS @ 90.4150°

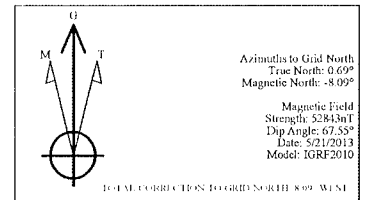
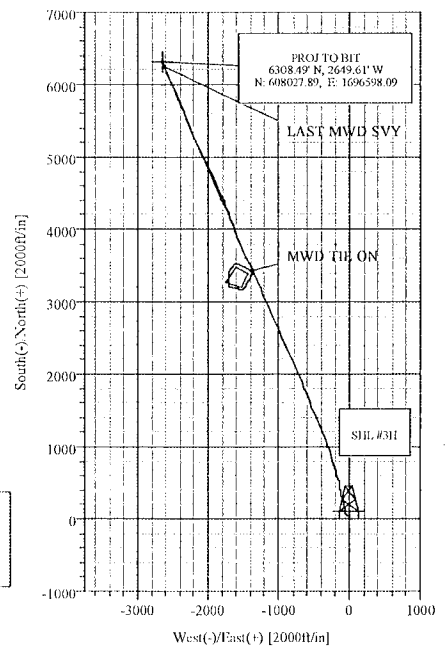
KH ELEVATION: 1350'  
 GRIELEVATION: 1328'



PROJECTION TO BIT

No	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec
154	12860.00	89.68	336.62	6248.64	6308.49	-2649.61	0.00	0.00	6840.66

VERTICAL SECTION @ 335.93°



Survey: WFT MWD (3H1PBHL17)

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## DIRECTIONAL REPORT

<b>Company:</b> CHESAPEAKE	<b>Date:</b> 9/5/2013	<b>Time:</b> 13:08:46	<b>Page:</b> 1
<b>Field:</b> OHIO COUNTY, WV (NAD 27)	<b>Co-ordinate(NE) Reference:</b> Well: 3H, Grid North		
<b>Site:</b> CLARENCE FARMER	<b>Vertical (TVD) Reference:</b> SITE 1352.0		
<b>Well:</b> 3H	<b>Section (VS) Reference:</b> Well (0.00N,0.00E,335.95Azi)		
<b>Wellpath:</b> HORIZONTAL	<b>Survey Calculation Method:</b> Minimum Curvature		<b>Db:</b> Sybase

<b>Plan:</b>	<b>Date Composed:</b>
<b>Principal:</b>	<b>Version:</b>
	<b>Tied-to:</b>

<b>Field:</b> OHIO COUNTY, WV (NAD 27)	
<b>Map System:</b> US State Plane Coordinate System 1927	<b>Map Zone:</b> West Virginia, Northern Zone
<b>Geo Datum:</b> NAD27 (Clarke 1866)	<b>Coordinate System:</b> Well Centre
<b>Sys Datum:</b> Mean Sea Level	<b>Geomagnetic Model:</b> IGRF2010

<b>Site:</b> CLARENCE FARMER			
<b>Site Position:</b>	<b>Northing:</b> 601701.90 ft	<b>Latitude:</b> 40 8 49.298 N	
<b>From:</b> Map	<b>Easting:</b> 1699238.00 ft	<b>Longitude:</b> 80 34 33.069 W	
<b>Position Uncertainty:</b> 0.00 ft		<b>North Reference:</b> Grid	
<b>Ground Level:</b> 1330.00 ft		<b>Grid Convergence:</b> -0.69 deg	

<b>Well:</b> 3H	<b>Slot Name:</b>
<b>Well Position:</b> +N/-S 17.50 ft	<b>Northing:</b> 601719.40 ft
+E/-W 9.70 ft	<b>Easting:</b> 1699247.70 ft
<b>Position Uncertainty:</b> 0.00 ft	
	<b>Latitude:</b> 40 8 49.472 N
	<b>Longitude:</b> 80 34 32.947 W

<b>Wellpath:</b> HORIZONTAL	<b>Drilled From:</b> Surface		
<b>Current Datum:</b> SITE	<b>Tie-on Depth:</b> 0.00 ft	<b>Above System Datum:</b> Mean Sea Level	
<b>Magnetic Data:</b> 5/21/2013	<b>Height:</b> 1352.00 ft	<b>Declination:</b> -8.78 deg	
<b>Field Strength:</b> 52843 nT		<b>Mag Dip Angle:</b> 67.55 deg	
<b>Vertical Section: Depth From (TVD)</b>	<b>+N/-S</b>	<b>+E/-W</b>	<b>Direction</b>
ft	ft	ft	deg
0.00	0.00	0.00	335.95

Plan Section Information										
MD	Incl	Azim	TVD	+N/-S	+E/-W	DLS	Build	Turn	TFO	Target

Survey										
MD	Incl	Azim	TVD	N/S	E/W	VS	DLS	MapN	MapE	Annotation
ft	deg	deg	ft	ft	ft	ft	deg/100ft	ft	ft	
600.00	0.80	238.12	599.98	-1.98	-3.18	-0.51	0.00	601717.42	1699244.52	
824.00	0.25	212.95	823.97	-3.21	-4.78	-0.99	0.26	601716.19	1699242.92	
919.00	1.20	355.24	918.97	-2.40	-4.97	-0.16	1.48	601717.00	1699242.73	
1013.00	3.89	356.18	1012.87	1.77	-5.27	3.76	2.86	601721.17	1699242.43	
1108.00	4.37	350.39	1107.62	8.55	-6.09	10.29	0.67	601727.95	1699241.61	
1202.00	5.08	357.16	1201.30	16.24	-6.89	17.64	0.96	601735.64	1699240.81	
1297.00	5.07	4.64	1295.93	24.62	-6.76	25.24	0.70	601744.02	1699240.94	
1391.00	3.24	2.02	1389.68	31.42	-6.33	31.27	1.96	601750.82	1699241.37	
1486.00	1.18	342.25	1484.60	35.03	-6.53	34.65	2.28	601754.43	1699241.17	
1580.00	0.88	311.18	1578.59	36.43	-7.37	36.27	0.66	601755.83	1699240.33	
1674.00	0.67	213.20	1672.58	36.45	-8.22	36.63	1.25	601755.85	1699239.48	
1768.00	0.75	180.28	1766.58	35.37	-8.52	35.77	0.44	601754.77	1699239.18	
1862.00	0.30	26.86	1860.57	34.98	-8.41	35.37	1.09	601754.38	1699239.29	
1956.00	0.58	29.80	1954.57	35.61	-8.06	35.80	0.30	601755.01	1699239.64	
2012.00	0.50	15.92	2010.57	36.09	-7.86	36.16	0.27	601755.49	1699239.84	
2106.00	0.43	10.36	2104.57	36.83	-7.68	36.76	0.09	601756.23	1699240.02	
2201.00	0.70	298.86	2199.56	37.46	-8.12	37.52	0.73	601756.86	1699239.58	
2296.00	0.83	267.03	2294.55	37.71	-9.32	38.23	0.46	601757.11	1699238.38	
2390.00	0.74	270.62	2388.55	37.68	-10.61	38.73	0.11	601757.08	1699237.09	
2485.00	1.00	278.62	2483.53	37.81	-12.04	39.43	0.30	601757.21	1699235.66	

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MORGANTOWN, WV

# Weatherford International Ltd.

## DIRECTIONAL REPORT

<b>Company:</b> CHESAPEAKE	<b>Date:</b> 9/5/2013	<b>Time:</b> 13:08:46	<b>Page:</b> 2
<b>Field:</b> OHIO COUNTY, WV (NAD 27)	<b>Co-ordinate(NE) Reference:</b> Well: 3H, Grid North		
<b>Site:</b> CLARENCE FARMER	<b>Vertical (TVD) Reference:</b> SITE 1352.0		
<b>Well:</b> 3H	<b>Section (VS) Reference:</b> Well (0.00N,0.00E,335.95Azi)		
<b>Wellpath:</b> HORIZONTAL	<b>Survey Calculation Method:</b> Minimum Curvature		<b>Db:</b> Sybase

### Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	DLS deg/100ft	MapN ft	MapE ft	Annotation
2579.00	1.09	288.41	2577.52	38.21	-13.70	40.48	0.21	601757.61	1699234.00	
2674.00	1.14	278.78	2672.50	38.64	-15.49	41.60	0.20	601758.04	1699232.21	
2769.00	1.20	280.24	2767.48	38.96	-17.40	42.67	0.07	601758.36	1699230.30	
2863.00	1.34	288.75	2861.46	39.49	-19.41	43.97	0.25	601758.89	1699228.29	
2958.00	1.01	305.95	2956.44	40.34	-21.14	45.45	0.50	601759.74	1699226.56	
3053.00	1.09	298.26	3051.42	41.26	-22.62	46.89	0.17	601760.66	1699225.08	
3147.00	1.01	287.16	3145.41	41.93	-24.20	48.15	0.23	601761.33	1699223.50	
3242.00	0.86	302.01	3240.39	42.55	-25.60	49.29	0.30	601761.95	1699222.10	
3336.00	0.90	303.60	3334.38	43.33	-26.81	50.50	0.05	601762.73	1699220.89	
3429.00	0.75	292.36	3427.37	43.97	-27.98	51.56	0.24	601763.37	1699219.72	
3524.00	0.98	302.00	3522.36	44.64	-29.25	52.68	0.29	601764.04	1699218.45	
3618.00	1.04	290.43	3616.35	45.36	-30.73	53.95	0.23	601764.76	1699216.97	
3713.00	0.70	287.31	3711.34	45.83	-32.09	54.93	0.36	601765.23	1699215.61	
3807.00	0.70	311.64	3805.33	46.39	-33.07	55.84	0.31	601765.79	1699214.63	
3900.00	0.66	311.20	3898.32	47.12	-33.90	56.84	0.04	601766.52	1699213.80	
3995.00	0.65	297.88	3993.32	47.73	-34.78	57.76	0.16	601767.13	1699212.92	
4088.00	0.61	329.26	4086.31	48.40	-35.50	58.67	0.37	601767.80	1699212.20	
4182.00	0.65	307.07	4180.31	49.15	-36.18	59.63	0.26	601768.55	1699211.52	
4277.00	0.62	339.62	4275.30	49.96	-36.79	60.62	0.38	601769.36	1699210.91	
4369.00	0.60	339.50	4367.30	50.88	-37.14	61.60	0.02	601770.28	1699210.56	
4464.00	0.30	296.66	4462.29	51.46	-37.53	62.28	0.45	601770.86	1699210.17	
4558.00	0.45	314.86	4556.29	51.83	-38.01	62.82	0.20	601771.23	1699209.69	
4653.00	1.09	301.42	4651.28	52.56	-39.05	63.91	0.70	601771.96	1699208.65	
4747.00	1.51	310.54	4745.26	53.83	-40.75	65.77	0.50	601773.23	1699206.95	
4841.00	1.27	312.00	4839.23	55.33	-42.47	67.84	0.26	601774.73	1699205.23	
4936.00	1.23	310.59	4934.21	56.70	-44.03	69.72	0.05	601776.10	1699203.67	
5030.00	1.20	306.38	5028.19	57.94	-45.58	71.49	0.10	601777.34	1699202.12	
5125.00	1.19	315.97	5123.17	59.24	-47.07	73.28	0.21	601778.64	1699200.63	
5219.00	0.92	318.51	5217.15	60.51	-48.25	74.92	0.29	601779.91	1699199.45	
5313.00	0.89	315.81	5311.14	61.60	-49.26	76.32	0.06	601781.00	1699198.44	
5408.00	0.65	300.53	5406.13	62.40	-50.24	77.46	0.33	601781.80	1699197.46	
5499.00	0.67	306.97	5497.12	62.98	-51.11	78.34	0.08	601782.38	1699196.59	
5564.00	0.32	251.41	5562.12	63.15	-51.58	78.69	0.85	601782.55	1699196.12	
5659.00	0.74	225.68	5657.12	62.64	-52.27	78.50	0.50	601782.04	1699195.43	
5690.00	0.96	249.70	5688.11	62.41	-52.66	78.45	1.34	601781.81	1699195.04	
5722.00	1.16	261.79	5720.11	62.27	-53.23	78.56	0.93	601781.67	1699194.47	
5753.00	2.69	307.50	5751.09	62.67	-54.12	79.28	6.63	601782.07	1699193.58	
5784.00	5.61	331.40	5782.01	64.44	-55.42	81.43	10.75	601783.84	1699192.28	
5816.00	8.84	339.75	5813.75	68.12	-57.02	85.45	10.59	601787.52	1699190.68	
5847.00	11.88	345.76	5844.24	73.45	-58.63	90.97	10.39	601792.85	1699189.07	
5878.00	14.74	348.37	5874.41	80.41	-60.21	97.97	9.42	601799.81	1699187.49	
5910.00	17.24	349.46	5905.17	89.06	-61.90	106.55	7.87	601808.46	1699185.80	
5941.00	19.45	349.12	5934.59	98.65	-63.71	116.05	7.14	601818.05	1699183.99	
5973.00	22.42	349.38	5964.47	109.88	-65.85	127.17	9.29	601829.28	1699181.85	
6004.00	25.65	349.16	5992.78	122.28	-68.20	139.46	10.42	601841.68	1699179.50	
6036.00	28.66	347.46	6021.25	136.58	-71.17	153.72	9.71	601855.98	1699176.53	
6067.00	31.80	346.23	6048.03	151.77	-74.73	169.05	10.32	601871.17	1699172.97	
6099.00	34.98	346.14	6074.75	168.87	-78.93	186.38	9.94	601888.27	1699168.77	
6130.00	38.07	345.53	6099.66	186.76	-83.45	204.55	10.04	601906.16	1699164.25	
6161.00	40.56	345.76	6123.64	205.78	-88.32	223.91	8.05	601925.18	1699159.38	
6193.00	44.13	346.06	6147.29	226.69	-93.56	245.14	11.17	601946.09	1699154.14	
6225.00	46.22	347.00	6169.84	248.76	-98.85	267.45	6.86	601968.16	1699148.85	

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MORGANTOWN, WV

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<b>Well:</b> 3H	<b>Section (VS) Reference:</b> Well (0.00N,0.00E,335.95Azi)		
<b>Wellpath:</b> HORIZONTAL	<b>Survey Calculation Method:</b> Minimum Curvature		<b>Db:</b> Sybase

**Survey**

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	DLS deg/100ft	MapN ft	MapE ft	Annotation
6256.00	48.71	347.29	6190.80	271.03	-103.93	289.85	8.06	601990.43	1699143.77	
6288.00	50.89	347.71	6211.45	294.89	-109.21	313.80	6.89	602014.29	1699138.49	
6320.00	54.13	347.44	6230.93	319.68	-114.68	338.66	10.15	602039.08	1699133.02	
6343.92	56.55	347.44	6244.53	338.89	-118.96	357.95	10.13	602058.29	1699128.74	3H PBHL P7
6351.00	57.27	347.44	6248.39	344.67	-120.25	363.76	10.13	602064.07	1699127.45	
6383.00	60.48	347.39	6264.93	371.40	-126.21	390.60	10.03	602090.80	1699121.49	
6414.00	62.86	347.67	6279.64	398.05	-132.11	417.33	7.72	602117.45	1699115.59	
6446.00	65.70	348.09	6293.53	426.23	-138.16	445.53	8.95	602145.63	1699109.54	
6477.00	69.11	348.81	6305.44	454.27	-143.88	473.47	11.21	602173.67	1699103.82	
6509.00	73.02	348.27	6315.82	483.93	-149.90	503.01	12.32	602203.33	1699097.80	
6540.00	74.51	347.55	6324.49	513.03	-156.13	532.12	5.30	602232.43	1699091.57	
6571.00	76.45	347.14	6332.26	542.31	-162.71	561.54	6.39	602261.71	1699084.99	
6602.00	79.58	345.96	6338.69	571.80	-169.76	591.34	10.76	602291.20	1699077.94	
6633.00	83.75	345.67	6343.19	601.53	-177.28	621.55	13.48	602320.93	1699070.42	
6664.00	85.21	345.34	6346.17	631.40	-185.00	651.98	4.83	602350.80	1699062.70	
6696.00	86.92	344.57	6348.36	662.23	-193.29	683.51	5.86	602381.63	1699054.41	
6728.00	87.83	343.70	6349.83	692.98	-202.02	715.15	3.93	602412.38	1699045.68	
6791.00	89.89	342.44	6351.08	753.23	-220.37	777.65	3.83	602472.63	1699027.33	
6885.00	91.40	341.71	6350.03	842.66	-249.29	871.10	1.78	602562.06	1698998.41	
6979.00	91.05	342.47	6348.02	932.08	-278.19	964.54	0.89	602651.48	1698969.51	
7074.00	90.53	339.81	6346.71	1021.96	-308.90	1059.13	2.85	602741.36	1698938.80	
7168.00	90.53	337.00	6345.84	1109.35	-343.49	1153.03	2.99	602828.75	1698904.21	
7262.00	91.09	335.82	6344.51	1195.49	-381.10	1247.02	1.39	602914.89	1698866.60	
7357.00	91.63	335.13	6342.25	1281.89	-420.52	1341.99	0.92	603001.29	1698827.18	
7453.00	91.82	335.07	6339.36	1368.93	-460.92	1437.94	0.21	603088.33	1698786.78	
7546.00	91.16	337.59	6336.94	1454.07	-498.25	1530.89	2.80	603173.47	1698749.45	
7641.00	91.26	338.68	6334.94	1542.21	-533.62	1625.80	1.15	603261.61	1698714.08	
7736.00	90.95	338.31	6333.11	1630.58	-568.44	1720.69	0.51	603349.98	1698679.26	
7831.00	91.52	338.73	6331.06	1718.97	-603.21	1815.57	0.75	603438.37	1698644.49	
7925.00	89.89	337.46	6329.90	1806.17	-638.28	1909.49	2.20	603525.57	1698609.42	
8020.00	90.89	336.38	6329.26	1893.56	-675.52	2004.48	1.55	603612.96	1698572.18	
8114.00	90.56	336.71	6328.07	1979.78	-712.93	2098.46	0.50	603699.18	1698534.77	
8209.00	92.78	334.74	6325.30	2066.34	-751.96	2193.41	3.12	603785.74	1698495.74	
8304.00	93.52	334.32	6320.08	2151.98	-792.76	2288.24	0.90	603871.38	1698454.94	
8399.00	91.87	334.44	6315.61	2237.54	-833.79	2383.09	1.74	603956.94	1698413.91	
8493.00	91.98	334.30	6312.45	2322.24	-874.42	2477.00	0.19	604041.64	1698373.28	
8588.00	91.12	336.04	6309.88	2408.42	-914.30	2571.96	2.04	604127.82	1698333.40	
8683.00	89.63	337.72	6309.26	2495.79	-951.60	2666.94	2.36	604215.19	1698296.10	
8777.00	90.32	338.45	6309.30	2582.99	-986.68	2760.87	1.07	604302.39	1698261.02	
8872.00	87.97	335.98	6310.72	2670.56	-1023.46	2855.82	3.59	604389.96	1698224.24	
8966.00	87.86	335.94	6314.14	2756.35	-1061.73	2949.76	0.12	604475.75	1698185.97	
9061.00	89.18	335.98	6316.59	2843.08	-1100.42	3044.73	1.39	604562.48	1698147.28	
9156.00	90.63	334.96	6316.75	2929.50	-1139.86	3139.72	1.87	604648.90	1698107.84	
9250.00	91.16	334.62	6315.28	3014.53	-1179.89	3233.69	0.67	604733.93	1698067.81	
9345.00	91.68	335.07	6312.93	3100.50	-1220.26	3328.64	0.72	604819.90	1698027.44	
9440.00	91.80	335.00	6310.04	3186.58	-1260.34	3423.58	0.15	604905.98	1697987.36	
9535.00	91.93	334.72	6306.95	3272.54	-1300.67	3518.52	0.32	604991.94	1697947.03	
9629.00	92.42	334.08	6303.38	3357.25	-1341.26	3612.41	0.86	605076.65	1697906.44	
9721.00	92.19	334.19	6299.68	3439.96	-1381.36	3704.29	0.28	605159.36	1697866.34	MWD TIE ON
9816.00	92.89	334.01	6295.47	3525.34	-1422.82	3799.15	0.76	605244.74	1697824.88	
9910.00	92.85	336.81	6290.77	3610.70	-1461.88	3893.02	2.98	605330.10	1697785.82	
10005.00	91.40	336.67	6287.24	3697.91	-1499.37	3987.94	1.53	605417.31	1697748.33	
10100.00	90.91	336.62	6285.33	3785.11	-1537.02	4082.91	0.52	605504.51	1697710.68	

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WV GEOLOGICAL SURVEY  
MORGANTOWN, WV

# Weatherford International Ltd.

## DIRECTIONAL REPORT

<b>Company:</b> CHESAPEAKE	<b>Date:</b> 9/5/2013	<b>Time:</b> 13:08:46	<b>Page:</b> 4
<b>Field:</b> OHIO COUNTY, WV (NAD 27)	<b>Co-ordinate(NE) Reference:</b> Well: 3H, Grid North		
<b>Site:</b> CLARENCE FARMER	<b>Vertical (TVD) Reference:</b> SITE 1352.0		
<b>Well:</b> 3H	<b>Section (VS) Reference:</b> Well (0.00N,0.00E,335.95Azi)		
<b>Wellpath:</b> HORIZONTAL	<b>Survey Calculation Method:</b> Minimum Curvature		<b>Db:</b> Sybase

### Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	DLS deg/100ft	MapN ft	MapE ft	Annotation
10194.00	90.93	336.47	6283.82	3871.33	-1574.43	4176.90	0.16	605590.73	1697673.27	
10289.00	91.10	337.76	6282.14	3958.84	-1611.37	4271.86	1.37	605678.24	1697636.33	
10383.00	91.45	339.40	6280.05	4046.32	-1645.69	4365.73	1.78	605765.72	1697602.01	
10476.00	89.76	337.18	6279.06	4132.71	-1680.09	4458.64	3.00	605852.11	1697567.61	
10570.00	90.54	339.01	6278.82	4219.92	-1715.15	4552.57	2.12	605939.32	1697532.55	
10665.00	90.21	342.80	6278.20	4309.67	-1746.22	4647.20	4.00	606029.07	1697501.48	
10760.00	88.32	338.52	6279.41	4399.28	-1777.67	4741.84	4.92	606118.68	1697470.03	
10854.00	89.00	336.50	6281.61	4486.10	-1813.62	4835.78	2.27	606205.50	1697434.08	
10948.00	89.72	335.47	6282.66	4571.96	-1851.87	4929.77	1.34	606291.36	1697395.83	
11042.00	91.03	333.98	6282.05	4656.96	-1892.00	5023.74	2.11	606376.36	1697355.70	
11137.00	91.35	333.81	6280.07	4742.25	-1933.80	5118.66	0.38	606461.65	1697313.90	
11231.00	91.87	333.55	6277.43	4826.47	-1975.46	5212.55	0.62	606545.87	1697272.24	
11326.00	92.22	333.51	6274.04	4911.45	-2017.77	5307.40	0.37	606630.85	1697229.93	
11421.00	92.28	332.95	6270.31	4996.21	-2060.53	5402.22	0.59	606715.61	1697187.17	
11515.00	92.98	334.35	6266.00	5080.35	-2102.21	5496.04	1.66	606799.75	1697145.49	
11609.00	91.31	335.38	6262.48	5165.38	-2142.10	5589.96	2.09	606884.78	1697105.60	
11703.00	91.28	335.86	6260.36	5250.98	-2180.90	5683.93	0.51	606970.38	1697066.80	
11798.00	91.09	336.70	6258.39	5337.93	-2219.10	5778.91	0.91	607057.33	1697028.60	
11890.00	91.47	336.95	6256.34	5422.49	-2255.30	5870.87	0.49	607141.89	1696992.40	
11985.00	91.79	337.08	6253.64	5509.91	-2292.38	5965.82	0.36	607229.31	1696955.32	
12080.00	90.35	336.12	6251.86	5597.08	-2330.10	6060.79	1.82	607316.48	1696917.60	
12174.00	90.98	335.12	6250.77	5682.69	-2368.90	6154.78	1.26	607402.09	1696878.80	
12269.00	91.17	334.81	6248.99	5768.75	-2409.09	6249.75	0.38	607488.15	1696838.61	
12362.00	91.40	334.66	6246.90	5852.83	-2448.78	6342.71	0.30	607572.23	1696798.92	
12457.00	90.35	336.44	6245.45	5939.30	-2488.09	6437.69	2.18	607658.70	1696759.61	
12551.00	89.33	335.89	6245.71	6025.28	-2526.08	6531.69	1.23	607744.68	1696721.62	
12645.00	89.21	336.35	6246.91	6111.23	-2564.13	6625.68	0.51	607830.63	1696683.57	
12740.00	89.58	336.65	6247.91	6198.34	-2602.01	6720.67	0.50	607917.74	1696645.69	
12803.00	89.68	336.62	6248.32	6256.17	-2626.99	6783.66	0.17	607975.57	1696620.71	LAST MWD SVY
12860.00	89.68	336.62	6248.64	6308.49	-2649.61	6840.66	0.00	608027.89	1696598.09	PROJ TO BIT

### Targets

Name	Description Dip. Dir.	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	<--- Latitude --->		<--- Longitude --->					
							Deg	Min	Sec	Deg	Min	Sec		
3H PBHL P7		6244.53	6308.30	-2649.90	608027.70	1696597.80	40	9	51.494	N	80	35	8.050	W

### Casing Points

MD	TVD	Diameter	Hole Size	Name

### Annotation

MD ft	TVD ft	
9721.00	6299.68	MWD TIE ON
12803.00	6248.32	LAST MWD SVY
12860.00	6248.64	PROJ TO BIT

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# Weatherford International Ltd.

## DIRECTIONAL REPORT

Company: CHESAPEAKE	Date: 9/5/2013	Time: 13:08:46	Page: 5
Field: OHIO COUNTY, WV (NAD 27)	Co-ordinate(NE) Reference: Well: 3H, Grid North		
Site: CLARENCE FARMER	Vertical (TVD) Reference: SITE 1352.0		
Well: 3H	Section (VS) Reference: Well (0.00N,0.00E,335.95Azi)		
Wellpath: HORIZONTAL	Survey Calculation Method: Minimum Curvature	Db: Sybase	

### Formations

MD	TVD	Formations	Lithology	Dip Angle	Dip Direction

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